

Stevens, Gary D

From: Greg Tornatore [gtornatore@andersonmikos.com]
Sent: Tuesday, October 17, 2006 11:02 AM
To: Stevens, Gary D
Cc: rmckenna@childrensmemorial.org; Bob Schaefer; Dave Mikos ; dmade@zgf.com; hcampbell@zgf.com
Subject: Follow-up to telephone conversation on heliport for the New Children's Memorial Hospital
Attachments: Requirements Summary-Draft 4+Sketch.pdf; Heliport Application Procedure_1.doc

Illinois Department of Transportation
Division of Aeronautics
1 Langhorne Bond Drive
Capital Airport
Springfield, Illinois 62707-8415
Attn: Gary D. Stevens

Dear Mr. Stevens:

Thank you very much for returning the call I placed to your agency last week while you were away. As I mentioned over the telephone, the hospital has asked us to investigate and determine what initial steps must be taken to apply for approval to locate a heliport on the roof of their new replacement hospital site at the proposed Near North location adjacent to the existing Northwestern Medical Campus. We very much appreciate your offer to work with us to obtain a heliport for emergency medical use. Attached is a document that was compiled last June with the purpose of determining what steps must be taken in order to apply for approval. I have attached a copy of the report and diagram that marks where we stand in the process at this point in time. I have also attached the executive summary of the steps, as best as we can be determined at this point, that will be required to follow through on this aspect of the project. Please look over the attached information and confirm that we are on the right track. As you and I discussed, I will follow up with a call to you on Thursday, October 19, after you have had time to look the enclosed material over to talk over the next steps required in the process.

Sincerely,

Greg Tornatore

GREGORY TORNATORE, AIA
SENIOR PROJECT ARCHITECT
Anderson Mikos Architects Ltd.
Architecture Planning Interior Design
One Parkview Plaza
17W110 22nd Street, Suite 200
Oakbrook Terrace, Illinois 60181
Telephone: 630-573-5149
Facsimile: 630-573-5176

10/17/2006

Summary of Heliport Requirements

Children's Memorial Hospital

Anderson Mikos Architects Ltd.

Project Number 6216.00

June 16, 2006

Introduction/Summary

The purpose of this document is to summarize the basic criteria for the design of a hospital heliport and identify the various regulatory agencies' requirements necessary for review and approval. This is done in an effort to evaluate, at the earliest stages, the feasibility of planning for a rooftop hospital heliport.

Regulatory Entities and Filing Documents Required

A package of information containing a completed Federal Aviation Administration (FAA) form 7480-1 and supplemental documents must be submitted to the block grant state office. That documentation is required to be filed 90 days before work is to begin. In Illinois the submittal is to be sent to the following location:

Illinois Department of Transportation
Illinois Department of Aeronautics
One Langhorne Bond Drive
Capital Airport
Springfield, Illinois 62707-8415
Attn: Robert Hahn

The U.S. Department of Transportation Federal Aviation Administration requires that any projects located in the State of Illinois be submitted through the Illinois Department of Transportation. The State of Illinois will help in the preparation of the 7480-1. It is asked that IDOT be called at 217-785-8516 before completing the 7480-1 form. The supplemental documents that are required are as follows:

1. A United States Geological Survey (USGS) quadrangle map (7.5 minute preferred) with the proposed project and obstructions plotted.
2. A scaled drawing or aerial photograph showing distances to and heights above the landing area for all obstructions in and around the proposed landing/takeoff area. Obstructions may be trees, poles, roads, or in this case buildings. Obstructions that penetrate FAR Part 77 surfaces, the Airport Object Clearance Surface, and the Approach Object Clearance Surface should be cleared. That line of action, however, will not be possible under these particular circumstances.

Along with the above FAA paperwork, the Illinois Department of Transportation, Division of Aeronautics requires that their form AER 209 – "Application for Certificate of Approval" be submitted simultaneously. A Certificate of Approval must be obtained prior to work beginning on a heliport. The IDOT application and approval process involves the following steps:

1. The applicant requests an initial inspection of the site proposed to be used for the heliport. Along with the request the applicant must include the following:
 - The approval of the property owner (i.e., a letter with the property owner's signature) if not the same as the applicant, or
 - A copy of the long-term lease.
2. A site visit by the Illinois Department of Transportation, Division of Aeronautics (from here on referred to as the Division) personnel to determine if the minimum standards for the operation of the heliport can be achieved.
3. If after an initial inspection has been performed and the site is determined to be **acceptable**, an "**Application for Certificate of Approval**" form must be completed and signed along with **FAA forms 7480-1**(Notice of Landing Area Proposal) and **7480-2** (sketch). (Note: At this time form 7480-1 was accessible on the DOT / FAA website but 7480-2 was not. Its absence may be an indication that form 7480-2 has been dropped from the requirements or that a new form is in the process of being adopted.)
4. If the site is **not acceptable**, Division personnel will advise the applicant as to what can be done to achieve an acceptable site.
5. If the site is deemed **acceptable**, the Division will submit FAA forms **7480-1** and **7480-2** to the FAA for an **airspace determination**. This process usually takes 30 to 60 days. Once the Division receives a **favorable airspace determination**, the applicant will be notified in writing and the Division will proceed to process the application for "**Certificate of Approval**".
6. If the FAA issues a **non-favorable airspace determination**, the applicant will be notified in writing as to what criteria needs to be met to receive a favorable determination.
7. The Division will publish a **Notice in the local newspaper** indicating that the Division intends to publish an **Order** granting or denying a **Certificate of Approval**, with a copy simultaneously mailed to the applicant.
8. After publication there is a **fifteen day period for filing written objections or comments** on the Order. The Division will consider these prior to making a decision to grant or deny a Certificate of Approval and prior to publishing the Order.
9. If **no comments or opposition** is received by the Division within the fifteen day period, the Division will publish an Order in the local newspaper approving the construction, with a copy simultaneously mailed to the applicant.
10. After the Order is published, interested persons may write or e-mail **comments** to the Division, or **request a hearing** in writing. Comments will be accepted for a **fifteen day period after the publication of the Order** in the local newspaper.

11. Unless the Division finds that a hearing is necessary or that a longer period of time is appropriate, the Order will be **effective twenty days** after publication in the local newspaper. A **Certificate of Approval** may be issued anytime after the effective date of the Order.
12. If after publication of the Order a **hearing** is requested, the Division will schedule it to take place in Chicago at the earliest date possible. All interested parties will be notified in writing at least **ten days** prior to the hearing. After the hearing is held, the division will issue a **Supplemental Order** indicating the findings and conclusions of the hearing and whether the original Order will stand or whether it will be modified.
13. The applicant will have **eighteen months** from the effective date of the **Order** to complete construction of the Heliport.
14. The applicant must **contact** the Division within **thirty days** after the completion of construction of the heliport to schedule a **final inspection**. If the requirements have been met, upon completion of construction and final inspection, the Division will issue a **Certificate of Approval** for the operation of the heliport to the applicant.
15. If the applicant is **unable to complete** construction or if the **requirements have not been met within eighteen months** of the effective date of the Order, the applicant **may request an extension of time** of the expiration date noted in the Order. The Division may grant or deny any extension of time based upon the applicant has shown good cause to justify the request.
16. If an extension of time is granted the additional period of time allowed will be at the Division's discretion. If a request for extension of time is denied, or if the minimum standards can not be met, the application for a Certificate of Approval becomes **null and void** on the date the Order expires.

There are also other codes that apply to the construction of a heliport such as NFPA 418 as required by the Illinois Department of Public Health, a discussion of which is beyond the scope of this summary.

The City of Chicago Zoning Ordinance states that heliports are allowed only under the zoning classification of Planned Developments. As such, no specific regulations are set forth since that particular type of land usage must be reviewed on an individual basis and the regulations established in the individual planned development ordinance. The site's zoning classification is presently split between Business Planned Development No. 468 and DX-12 (formerly classification B7-6). It is safe to assume that a proposed heliport on this site will be subject to the review of the City of Chicago Department of Planning concurrently with other zoning and planned development issues. As far as can be determined at this point, the Chicago Building Code does not address the subject of heliports as a construction or occupancy type.

General Description of a Hospital Heliport.

A hospital heliport is a heliport limited to helicopters engaged in air ambulance, or other hospital related functions. A designated helicopter landing area located at a hospital or medical facility is a heliport and not a medical emergency site (per U.S.D.O.T Advisory Circular No. 150/5390-2b). A functional hospital heliport may be as simple as a cleared area on the ground with a windsock and a clear approach/departure path. In light of this particular location and the site constraints imposed by its dense urban setting, the assumption is that the only practical site for a heliport is a rooftop location.

Any heliport consists of three specific areas: (1) a *touchdown and lift-off (TLOF)* area which is surrounded by (2) a *final approach and takeoff (FATO)* area and a (3) safety area which is provided around the FATO. The TLOF area is a load bearing, generally paved area (sometimes referred to as a helipad), normally centered in the FATO, on which the helicopter lands or takes off. It may be at ground level, on an elevated structure or at rooftop level. The TLOF size is determined by the dimensions of the aircraft it will be serving, but the minimum recommended dimension is 40 feet by 40 feet. A FATO area is defined as an area over which the final phase of the approach to a hover, or a landing is completed and from which the takeoff is initiated. The FATO is typically sized minimally as a 100 foot diameter circle centered on the TLOF. The Safety Area is a defined area on a heliport surrounding the FATO intended to reduce the risk of helicopters accidentally diverging from the FATO. This area should be free of objects, other than those frangible (capable of being broken) mounted objects required for air navigation purposes. An additional term that is sometimes referred to is the *final approach reference area (FARA)* which is an obstacle-free area with its center aligned on the final approach course. It is located at the end of a precision instrument FATO.

Physical Requirements for a Heliport:

The U. S. Department of Transportation has issued an Advisory Circular (AC 150/5390-2B) that provides recommendations for heliport design. It describes acceptable requirements for the development of heliports. The AC applies to anyone who is proposing to construct, activate, or deactivate a heliport. The AC is not mandatory and does not constitute a regulation except when Federal funds are specifically dedicated for heliport construction; however, the local jurisdiction, the Illinois Department of Transportation, has issued their own requirements called Hospital Heliport Guidelines. Those Illinois guidelines incorporate many of the items covered in "Chapter 4 - Hospital Heliports" of U.S.D.O.T. AC 150/5390-2B.

The basic elements of a heliport are clear approach/departure paths, a clear area for ground maneuvers, and a windsock. Hospital heliports are treated as special cases of general aviation facilities providing a unique public service. They are normally located in close proximity to the hospital emergency room or a medical facility. With the introduction of the global positioning system (GPS), it is now practical for heliports to have instrument approaches. Good planning suggests that heliport proponents should plan for the eventual development of instrument approaches to heliports.

The heliport that is being contemplated would be classified as an Elevated Hospital Heliport. The touchdown and lift-off (TLOF) area should be elevated above the level of any obstacle, in either the final approach and takeoff (FATO) area or the Safety Area that can not be removed. Obstructions like elevator penthouses, cooling towers, exhaust vents, fresh air vents, and other raised features can affect heliport operations. Also, helicopter exhausts can impact building air quality if the heliport is too close to fresh-air vents.

When the touchdown and lift off area is on a platform elevated more than 30 inches above its surroundings, a safety net, not less than five feet wide, should be provided. A railing or fence must not be used since it would be a safety hazard during helicopter operations. The net should not project above the level of the touchdown and lift-off area.

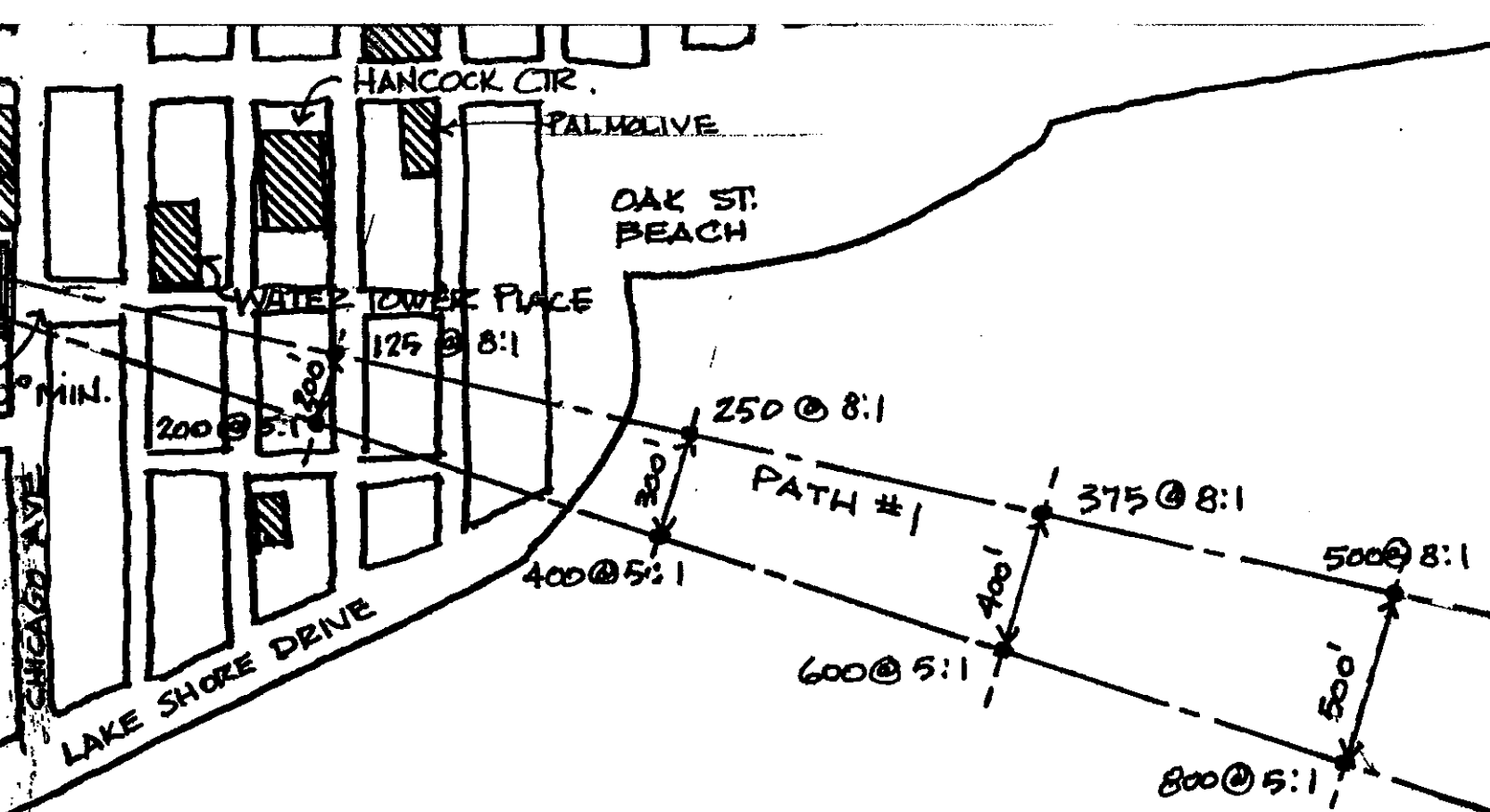
Finally, access to elevated touchdown and lift-off areas requires two separate access points. Hospital heliports should provide access to and from the touchdown and lift-off area via ramps in order to provide for quick and easy transportation of a patient on a gurney. Inside the final approach and takeoff area any handrails, netting or lighting fixture must not extend above the elevation of the touch down and lift-off area.

Approach to/Takeoff from the Heliport

Objects or structures must be sufficiently outside the final approach and take-off area to permit **two** clear approach/takeoff paths at least **90 degrees** apart. Please refer to the enclosed site plan drawing titled "Hospital Heliport Approach/Takeoff Paths Study" included at the end of this summary report. Portions of the final approach and takeoff area of rooftop heliports may extend into the clear airspace beyond the building's edge. To the extent practical, the two approach/takeoff paths should be aligned with the prevailing winds. Two approach/takeoff paths orientated 90 to 180 degrees apart minimize the times when the helicopter would have to land or take off with a crosswind or tailwind. Approach/takeoff paths may curve to avoid objects and/or noise sensitive areas and utilize the airspace above public lands such as an expressway or river.

Minimum clearance over obstacles located beneath the approach/takeoff surfaces is required. Operations into the wind are optimal for both takeoff and landing, and minimum obstacle clearances are based on no wind or crosswind conditions. An 8:1 obstacle clearance slope is the FAA standard for heliports. Hospital heliports specifically are allowed a 5:1 obstacle clearance for one of the two required paths. Obstacle clearance is based on a calculation of the height of an object above the heliport touchdown elevation divided into the horizontal distance from the final approach and take-off area edge. Obstacles that are buildings, which are what constitute obstacles in this particular situation, are based upon their actual height above the touchdown heliport surface (TLOF). For example, assuming a heliport on the top of a twenty story building with a fifteen foot floor to floor height, that heliport would be approximately 300 feet above street level. If another building within the approach/takeoff path is forty stories (600 feet) with its roof 300 feet above the level of the TLOF and is approximately two blocks (1320 feet) away, the calculation would be as follows: 1320 feet divided by 300 feet = 4.4:1 clearance slope. That clearance slope is not acceptable using the 8:1

or even the 5:1 guideline. In order to determine whether it is feasible to build a heliport on the roof of the new Children's Memorial Hospital, the heights of all buildings within three quarters of a mile of the new roof level heliport, will have to be established, and their distances away from the new building plotted.



LAKE MICHIGAN

al
773-447-4072

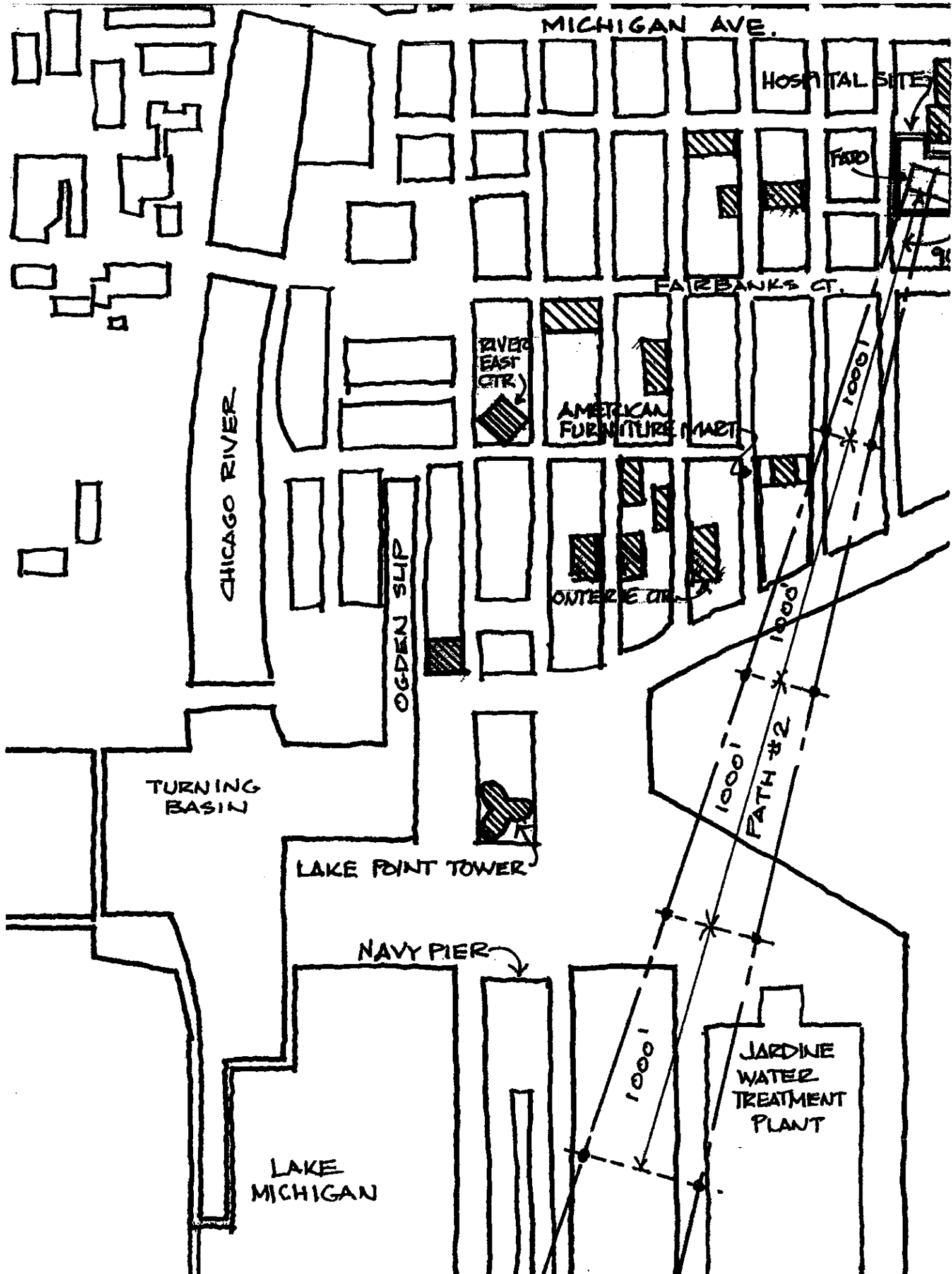


LEGEND

- 125 @ 8:1 REQUIRED HEIGHT CLEARANCE ABOVE HELIPORT LEVEL ELEVATION AT 8:1 SLOPE.
- 200 @ 5:1 REQUIRED HEIGHT CLEARANCE ABOVE HELIPORT LEVEL ELEVATION AT 5:1 SLOPE.
- ↔ REQUIRED DIMENSIONS.
- APPROACH/TAKEOFF PATHS.
- ▨ BUILDING OBSTRUCTION.

NOTE: ACCESS TO THE SITE FROM THE WEST WAS NOT CONSIDERED VIABLE DUE TO THE NUMEROUS OBSTRUCTIONS PRESENT ALONG MICHIGAN AVE AND BEYOND

CHILDREN'S MEMORIAL HOSPITAL
HOSPITAL HELIPORT APPROACH/TAKEOFF PATHS STUDY
JUNE 16, 2006
AMA PROJ. NO. 6216.00
SCALE: APPROX. 1" = 500'



Summary

Heliport Application and Approval Procedure

Page 1 of 2

Children's Memorial Hospital

Anderson Mikos Architects Ltd.

Project Number 6220.00

October 12, 2006

- Illinois Department of Transportation, Illinois Department of Aeronautics, is contacted at 217-785-8516 for assistance in submitting a package of information to the Federal Aviation Administration.
- The applicant requests in writing an initial inspection of the site proposed to be used for the heliport. Along with the request the applicant must include the following:
 - Approval of the property owner (i.e., a letter with the property owner's signature) if not the same as the applicant, or.
 - A copy of the long term lease.
- A site visit is made by the Illinois Department of Transportation to determine if the minimum standards for the operation of the heliport can be achieved.
- If after the initial inspection the site is determined to be acceptable the following must be submitted:
 - IDOT form AER 209 – Application for Certificate of approval.
 - FAA form 7480 -1 (Notice of Landing Area Proposal) along with the following supplemental documents:
 - USGS quadrangle map (7.5 minute preferred)
 - A scaled drawing or aerial photograph showing distances to and heights above the landing area for all obstructions in and around the proposed landing/takeoff area.
 - FAA form 7480-2
- If the site is **not acceptable**, IDOT personnel will advise the applicant as to what can be done to achieve an acceptable site.
- If the site is **acceptable**, IDOT will submit FAA forms 7480-1 and 7480-2 to the FAA for an airspace determination. (This process takes 30 to 60 days).
- If the FAA issues a **non-favorable airspace determination**, the applicant will be notified in writing as to what criteria must be met to receive a favorable determination.
- If the FAA issues a **favorable airspace determination**, the applicant will be notified in writing and IDOT will proceed to process the application for Certificate of Approval.
- IDOT will publish a notice in the local newspaper indicating that IDOT **intends** to publish an Order granting or denying a Certificate of Approval, with a copy simultaneously mailed to the applicant.

Summary

Heliport Application and Approval Procedure

Page 2 of 2

- After publication there is a fifteen day period for filing written objections or comments on the Order. IDOT will consider these prior to making a decision to grant or deny a Certificate of Approval and prior to publishing the Order.
- If **no comments or opposition is received** by IDOT within the fifteen day period, IDOT will publish an Order in the local approving the construction, with a copy simultaneously mailed to the applicant.
 - After the Order is published, interested persons may write or e-mail comments to IDOT, or request a hearing in writing. Comments will be accepted for a fifteen day period after the publication of the Order in the local newspaper.
- Unless IDOT finds that a hearing is necessary or that a longer period of time is appropriate, the Order will be effective twenty days after publication in the local newspaper. A Certificate of Approval may be issued **anytime** after the effective date of the Order.
 - If a **hearing is requested**, IDOT will schedule it to take place in Chicago at the earliest date possible. All interested parties will be notified in writing at least ten days prior to the hearing.
 - After the hearing is held, IDOT will issue a Supplemental Order indicating the findings and conclusions of the hearing and whether the original Order will stand or whether it will be modified.
- The applicant will have eighteen months from the effective date of the Order to complete construction of the Heliport.
- The applicant must contact IDOT within thirty days after the completion of construction of the heliport to schedule a final inspection.
 - If the requirements have been met, upon completion of construction and final inspection, IDOT will issue a Certificate of Approval for the operation of the heliport to the applicant.
- If the applicant is unable to complete construction or if the requirements have not been met within eighteen months of the effective date of the Order, the applicant may request an extension of time of the expiration date noted in the Order. IDOT may grant or deny any extension of time based upon whether the applicant has shown good cause to justify the request.
- If an extension of time is granted, the additional period of time allowed will be at IDOT's discretion. If a request for extension of time is denied, or if the minimum standards can not be met, the application for a Certificate of Approval becomes null and void on the date the order expires.

Mr. Stevens:

I received a response from Bob McKenna quicker than I thought I would. Please see his response below. Does the agenda as he has outlined it below work for you? Please let me know.

Thank you.

Gregory Tornatore

GREGORY TORNATORE, AIA

SENIOR PROJECT ARCHITECT

Anderson Mikos Architects Ltd.

Architecture Planning Interior Design

One Parkview Plaza

17W110 22nd Street, Suite 200

Oakbrook Terrace, Illinois 60181

Telephone: 630-573-5149

Facsimile: 630-573-5176

From: McKenna, Robert [mailto:RMcKenna@childrensmemorial.org]

Sent: Monday, October 23, 2006 5:41 PM

To: Greg Tornatore

Cc: Robert Schaefer; Schaefer, Robert G.; David Mikos; Gimpel, James; William Binnie

Subject: RE: Heliport for the new Children's Memorial Hospital

Greg,

Wednesday, November 8th will work fine for me. We can meet here in our conference room to see Gary's power point, exchange information and then go down to the site and view the situation from the roof and/or the top floor of Prentice which will offer a good perspective of surrounding buildings, flight paths and any obstructions which might pose a problem.

We should include Jim Gimpel, myself, someone from Mortenson~Power and Bill Binnie from Rise~Morgan. We could probably arrange for a CMH shuttle van to take us down and back, so a 1 hour meeting followed by a 1 ½ hour tour of the site would get us back here by 3:30PM. Please contact Gary regarding the itinerary and let me know if this meets with his approval.

Thank you,
Bob McKenna

From: Greg Tornatore [mailto:gtornatore@andersonmikos.com]

Sent: Monday, October 23, 2006 4:50 PM

To: McKenna, Robert

Cc: Bob Schaefer; Schaefer, Robert G.; Dave Mikos

Subject: FW: Heliport for the new Children's Memorial Hospital

Bob:

Below is Gary Stevens' (from IDOT) reply. Please let me know if the time (1:00pm) and date (11/8) he is proposing still works with your schedule. If it does, let me know and I will call Gary back to confirm.

Thank you,

Greg

GREGORY TORNATORE, AIA

SENIOR PROJECT ARCHITECT

Anderson Mikos Architects Ltd.

10/31/2006

Architecture Planning Interior Design
 One Parkview Plaza
 17W110 22nd Street, Suite 200
 Oakbrook Terrace, Illinois 60181
 Telephone: 630-573-5149
 Facsimile: 630-573-5176

From: Stevens, Gary D [mailto:Gary.D.Stevens@illinois.gov]
Sent: Monday, October 23, 2006 9:41 AM
To: Greg Tornatore
Subject: RE: Heliport for the new Children's Memorial Hospital

I can be available on either Wednesday 11/8 or Wednesday 11/15. Let's plan on 11/8 with a backup date for weather of 11/15. Because I will be traveling from Springfield, I would prefer to have the meeting scheduled around 1:00 PM or early afternoon. We have a power point presentation on heliport site selection and design that I feel would be very helpful for the meeting. A conference room with a projector would be needed. If necessary, I could bring a laptop and projector myself. Let me know how this will work for you and the others.

Thanks,
 Gary Stevens

From: Greg Tornatore [mailto:gtornatore@andersonmikos.com]
Sent: Friday, October 20, 2006 4:32 PM
To: Stevens, Gary D
Cc: Dave Mikos ; Bob Schaefer; Schaefer, Robert G.; rmckenna@childrensmemorial.org
Subject: Heliport for the new Children's Memorial Hospital

Illinois Department of Transportation
 Division of Aeronautics
 1 Langhorne Bond Drive
 Capital Airport
 Springfield, Illinois 62707-8415

Attn: Gary D. Stevens

Dear Mr. Stevens:

I just spoke with Bob McKenna, the Administrator for New Hospital Development at Children's Memorial Hospital. I mentioned to him that you thought that the next step in the process would be for you to make a field visit to the site to determine the feasibility of providing a heliport on the roof of the new building. He told me that he would like to get it started. He and a few other key people, as well as myself, would like to meet with you when you make your site visit to discuss the issues. If necessary, we can arrange to go to the roof or one of the upper floors of the new Prentice Hospital which is directly adjacent to our proposed building site. Prentice is just about as high as our new building will be. Any of the following dates will work for us on this end:

Friday, November 3

Wednesday, November 8

Wednesday, November 15

Friday, November 17

Please get back to me as to whether any of those days will work with your schedule.

Thank you very much for your help on this matter.

Sincerely,

Greg Tornatore

GREGORY TORNATORE, AIA
 SENIOR PROJECT ARCHITECT
Anderson Mikos Architects Ltd.
 Architecture Planning Interior Design

10/31/2006

One Parkview Plaza
17W110 22nd Street, Suite 200
Oakbrook Terrace, Illinois 60181
Telephone: 630-573-5149
Facsimile: 630-573-5176

Stevens, Gary D

From: Gimpel, James [JGimpel@childrensmemorial.org]
Sent: Friday, November 03, 2006 4:20 PM
To: McKenna, Robert; Greg Tornatore; jhamm@zgf.com; Stevens, Gary D; Nokes, Jan; wbinnie@risegroup.com; Labok, Kenneth; Rozenfeld, Ranna Dr.
Cc: Baur, Stuart; robert.nartonis@mortenson.com; Dawson, Shirley ; Konopka, Dolly (Dolores); Duarte, Luis
Subject: Helipad Meeting - November 8, 2006

Below is the list of attendees at the helipad meeting and site visit next week. Please let me know if you have any questions.

Jim

Attendees at Helipad Presentation 1:00 PM, Wednesday, November 8, 2006
 W/M Conference Room 212

Bob McKenna 773-880-4759
 Jim Gimpel
 Greg Tornatore
 Joe Hamm
 Gary Stevens (IDOT)
 Jan Nokes, clinical manager
 Ranna Rozenfeld, Transport Team
 Eric Hoffman
 Bill Binnie
 Kenneth Labok

Attendees for Site Visit to Prentice ~2:00 PM – 3:00 PM (transportation provided)

Bob McKenna - CMH
 Jim Gimpel - CMH
 Greg Tornatore - AMA
 Joe Hamm - ZGF
 Gary Stevens - IDOT
 Bill Binnie – Rise/Morgan
 Eric Hoffman – Mortenson/Power

James S. Gimpel, FAIA
Director Facility Development
New Hospital Development
 Children's Memorial Hospital
 2300 Children's Plaza , No. 104
 Chicago, Illinois 60614

T: 773/880-3290
 F: 773/880-3995
 jgimpel@childrensmemorial.org

11/8/2006

CONFERENCE MEMORANDUM

From: Gregory Tornatore

Date: November 13, 2006

Re: Children's Memorial Hospital
New Hospital Development - Heliport
AMA Project #6220.00

Copies to:
Participants
David Mikos - AMA
Robert Schaefer - AMA
Hugh Campbell - ZGK
Dos Mabe - ZGF
Stuart Baur - ZGF
Sue Ann Barton - ZGF

Date of meeting: November 8, 2006

Location: Children's Memorial Hospital - Ward Mitchell conference room
Roof of Prentice Women's Hospital - Northwestern Memorial Hospital

Participants:

Children's Memorial Hospital (CMH)

James Gimpel
Robert McKenna
Kenneth Labok
Jan Nokes
Ranna Rozenfeld

Mortenson / Power
Eric Hoffman

Anderson Mikos Architects, Ltd. (AMA)

Gregory Tornatore

The Rise Group
William Binnie

Illinois Department of Transportation

Frasca Division of Aeronautics

Gary S. Stevens

Zimmer Gunsul
Joseph Hamm

Purpose: To review site conditions and determine the feasibility of locating a heliport on the roof of the new hospital.

NOTES AND DISCUSSION:

Item	Discussion	Action
1.	G. Stevens gave a presentation on hospital heliports around the State of Illinois and the requirements for same. He is the state flight safety coordinator.	
2.	The State of Illinois is a block state, meaning that all requirements for heliports are submitted to the Federal Aviation Authority (FAA) through the Illinois Department of Transportation.	

November 13, 2006

Re: New Hospital Development - Heliport

Page 2 of 6

3.	Acquiring local zoning approval is the first step in obtaining IDOT approval for the construction of a heliport. The state agency can not override local jurisdiction and can not grant approval without local consensus.	
4.	Along with local zoning approval, the Chicago Department of Aviation must approve the project. Mr. Stevens stated that the city will usually approve a project based upon a positive recommendation from IDOT. He said that his office will handle the submission of the project to the Chicago Department of Aviation for review.	
5.	The State of Illinois pioneered emergency medical service helicopter operations over thirty years ago. The aircraft were based at four locations within the state. The State is no longer involved in EMS services, but the business has grown from seven operators ten years ago to twenty today.	
6.	In the 1970's there was a bilateral agreement with the Illinois Army National Guard. Typically the National Guard would only be involved in disaster situations.	
7.	One third of the hospital heliports operated in Illinois are located on rooftops, and most of those locations are in metropolitan areas where space is at a premium.	
8.	Helipads must accommodate weights that vary from four to six thousand pounds for a small aircraft to seven to eight thousand pounds for twin turbine types.	
9.	Illinois recommends that heliports be designed to accommodate the Sikorsky S76, the largest helicopter used in EMS service in this state. The S76 weighs twelve thousand pounds. The FAA recommends that facilities be designed to accept the Sikorsy UH-60 "Blackhawk" which weighs twenty thousand pounds. That weight actually translates into thirty thousand pounds of downward force on touchdown.	
10.	The Bell 412 is operated by the Chicago Fire/Police Departments. It is approximately the size of the S76.	
11.	In the future hospital heliports may be required to facilitate instrument approaches.	
12.	The three main areas of concern when planning a heliport are: A. Noise B. Fire safety C. Structural capacity for the landing pad (TLOF).	

13.	<p>Noise:</p> <ul style="list-style-type: none"> A. At four hundred feet away, noise levels from a light helicopter have been measured at seventy-five decibels, and eighty-seven decibels for a heavy helicopter. For comparison purposes, at fifty feet away, an automobile generates sixty-five decibels, truck eighty-two decibels, and a chain saw one hundred ten decibels. B. An attempt was once made to measure the sound generated by a UH Iroquois (Huey), considered by many to be the noisiest ship flown, while landing in a high traffic urban area. It was found that the ambient noise level in the street was higher than that of the aircraft. C. If a roof top pad is properly isolated from the building structure (columns), a landing will not be heard in the area below. 	
14.	<p>Fire Safety:</p> <p>Research of crashes with burning was done based upon 2,400,000 helicopter flights. The results were that there were fourteen incidents, eight of which occurred during maintenance operations. Therefore, the risk of crashing/burning is generally felt to be zero.</p>	
15.	<p>Structure:</p> <p>The load should be figured as being distributed over the radius of the rotor blade.</p>	
16.	There are three classifications of heliports: surface, elevated and rooftop.	
17.	Ingalls Hospital's heliport is located on top of a parking structure, and only one parking space was lost to the construction; however, the facility is not considered optimum from a safety standpoint because of the path that the patient must follow to reach the interior of the hospital.	
18.	<p>Miscellaneous requirements:</p> <ul style="list-style-type: none"> A. An area one hundred by one hundred feet, free of obstructions. (Space wise this is equivalent to the area required to park approximately forty automobiles. B. A minimum of two approaches at least ninety degrees to each other. C. Any road adjacent to the heliport is considered a fifteen foot height obstruction. This requirement can be waived if the road will be closed during take offs and landings. D. An MRI will not interfere with the aircrafts' compasses as long as the heliport is beyond the .5 gauss line. E. Minimum pad size (TLOF) is forty feet by forty feet, but IDOT recommends a fifty by fifty foot pad for rooftop operations. F. Final approach and takeoff (FATO) calculations are made at the surface of the touchdown and lift-off area (TLOF). 	

	<p>G. Portland cement concrete is preferred over asphalt concrete for the pad surface. Asphalt has a tendency to stretch and tear under the spreading action of landing skids.</p> <p>H. The following basic equipment must be provided:</p> <ol style="list-style-type: none">1. Windsock2. Work lighting3. Flood lighting (on a separate switch from the work lighting)4. Revolving beacon5. Perimeter lighting (Formerly was yellow, but is now required to be green.). Any lighting fixture that works can be used on non-FAA facilities. <p>I. Two means of egress are required off of the pad. The primary is a ramp, and the secondary is a stair. (NFPA 418)</p> <p>J. Containment: Prior to 1992 the EPA required fuel separation equipment for fuel spills. This is no longer a requirement.</p>	
19.	<p>Three items will be required for this particular heliport:</p> <ol style="list-style-type: none">1. A comprehensive survey of the buildings around the heliport.2. Data about how the elevation will effect wind currents.3. The pad (TLOF) will have to be a minimum of fifty feet by fifty feet.	
	<p>It was at this point that the meeting moved to the roof of the Prentice Women's Hospital in order to observe the actual conditions under which helicopters will be operating.</p>	
20.	<p>There is a company located in Cincinnati, Ohio that designs and builds prefabricated heliports. The company is called FEC Heliports.</p>	
21.	<p>At the site, Mr. Stevens came to the following conclusions:</p> <ol style="list-style-type: none">1. A helipad was feasible at the proposed location.2. Because of the type of winds anticipated, a standard windsock would not be adequate for displaying conditions. A weather station to measure wind velocity will be required. The wind velocity readings would have to be monitored by the hospital transport team and the information transmitted to the pilot via radio during touchdown and lift-off operations.3. The best location for the elevator penthouse and overrun would be at the west end of the roof because the heights of the immediately adjacent buildings will not allow an approach from that direction. That penthouse should be a minimum of sixty to sixty-five feet from the center line of the final approach and take-off area (FATO).	
22.	<p>Mr. Stevens requested that nine surrounding buildings be surveyed to determine the horizontal distances from and the height of the tallest part of each of those buildings to the proposed helipad surface. Those nine buildings</p>	

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	<p>are as follows:</p> <ol style="list-style-type: none">1. Water Tower Place2. 900 N. Michigan Avenue3. 110 E. Pearson4. Olympia Center5. Chicago Place (700 N. Michigan)6. The Radisson Hotel (160 E. Huron)7. Northwestern Memorial Hospital (Galter Center)8. River East Condominiums9. The Streeter (300 block of E. Ohio – still under construction)	
	<p>After returning to the Ward Mitchell Building. Mr. Stevens outlined the heliport application and approval procedure to J. Gimpel and G. Tornatore. That procedure is as follows:</p>	
	<p>(Step) Action [Comment]</p>	
	<ol style="list-style-type: none">(1) CMH obtains zoning / PD amendment from City of Chicago with provisions for a heliport. [<i>IDOT can participate in this process if needed i.e. make recommendations</i>](2) Application is submitted to IDOT. [<i>All zoning issues with reference to the heliport must be resolved before application can be made</i>](3) IDOT files for review by FAA and City of Chicago Department of Aviation.(4) FAA divisions review IDOT application. [<i>This is typically a six to eight month process</i>]<ol style="list-style-type: none">a. Air traffic – Impact on other facilities.b. Flight procedures – Analyze instrument approach.c. Flight Standards – Inspect the site.<ol style="list-style-type: none">i. Regional Officeii. Field Officed. Armye. Navyf. Air Forceg. Airport District Office - Consolidates comments from items a through f above and renders a single opinion for FAA.(5) IDOT receives approval from FAA (favorable air space determination) and issues a conditional approval.(6) Notice is published in newspaper with ten days for public comment. [<i>Only comments related to safety concerns will be considered</i>](7) If public comment is received a public hearing is scheduled.(8) If no comments are received, an order (Certificate of Approval) is issued. Order is good for eighteen months. [<i>An extension can be issued for up to eighteen additional months if construction is not completed</i>](9) Inspection is made by IDOT. A Certificate of Approval is issued and	

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	filed with the FAA. [<i>Owner must contact IDOT within 30 days after completion of construction to schedule an inspection</i>]	
	(10)Additional Procedures – Ongoing a. IDOT periodic inspections b. City of Chicago annual licensing fee.	
	Editor's note: <i>G. Tornatore contacted G. Stevens the day after the meeting to ask what the typical time period is between when IDOT is called to schedule the inspection and when the representative arrives on site to make the inspection. Mr. Stevens stated that time period is typically one to two weeks.</i>	

These minutes represent Anderson Mikos Architects' understanding of the discussion. Please advise G. Tornatore of comments or corrections within five days of receipt.

Stevens, Gary D

From: Greg Tornatore [gtornatore@andersonmikos.com]
Sent: Tuesday, November 14, 2006 11:30 AM
To: Stevens, Gary D
Cc: rmckenna@childrensmemorial.org; jgimpel@childrensmemorial.org; Bob Schaefer; Schaefer, Robert G.; Dave Mikos
Subject: Children's Memorial Hospital - New Hospital Development Heliport
Follow Up Flag: Follow up
Flag Status: Red

Illinois Department of Transportation
Division of Aeronautics
1 Langhorn Bond Drive
Capital Airport
Springfield, Illinois 62707-8415

Attn: Gary D. Stevens

Dear Mr. Stevens:

Thank you very much for coming out last Wednesday to give us direction with your "power point" presentation and field visit to the site. All in attendance were happy to hear that a heliport on the roof of the new hospital would be feasible from an operational standpoint. As you and I discussed over the telephone the morning of Thursday, November 9, the next step is to get local (community and City of Chicago) consensus before we submit the request to your office to petition the FAA for approval. It is anticipated, as Jim Gimpel mentioned to you after our field visit, that zoning approval and the passage of the planned unit development ordinance will be in December of 2007. Between now and that date, the hospital is going to meet with a number of community groups in the area and seek their agreement that a heliport will be an asset to the hospital, the immediate neighborhood, and ultimately to the community at large.

In order to aid in the process of working with the neighbors, Bob McKenna has requested that I ask you to author a letter documenting your findings and conclusions about the site and the feasibility of operating a heliport there. Bob feels that a letter from you would be helpful as positive back-up information in the meetings with the community. Since you did state that you could provide such documentation at some point, we would like at this time to take you up on your generous offer. We will update you periodically on the progress that is being made with the community so as to keep you informed.

If you would, please address your letter to Robert McKenna, Administrator of New Hospital Development; Children's Memorial Hospital; 2300 Children's Plaza; Box 104; Chicago, Illinois 60614-3394. It would be appreciated if you could get the letter to him in the next week or so, if your schedule will allow it.

Again, thank you for all of your help. It is appreciated by all concerned, and we are looking forward to working with you on this very interesting project.

Sincerely,

Greg T.

Gregory Tornatore, AIA

Senior Project Architect

Anderson

Mikos Architects, Ltd.

One Parkview Plaza

17 W 110 22nd Street, Suite 200

11/16/2006

Oakbrook Terrace, Illinois 60181
(630) 573-5149
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gtornatore@andersonmikos.com

11/16/2006



Illinois Department of Transportation

Division of Aeronautics

1 Langhorne Bond Drive / Springfield, Illinois / 62707-8415

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November 16, 2006

**NEW HOSPITAL
DEVELOPMENT**

Robert McKenna
Administrator of New Hospital Development
Children's Memorial Hospital
2300 Children's Plaza Box 104
Chicago, IL 60614-3394

Dear Mr. McKenna:

I am sending this letter to follow up on our meeting and site visit on November 11, 2006 to discuss the feasibility of a rooftop heliport for your proposed new facility next to the Northwestern medical complex in Chicago. I hope our presentation on hospital heliport design was helpful to everyone in gaining an understanding of the State and FAA safety criteria.

Based on our site visit to the roof of the new Northwestern Women's Hospital facility situated east of the proposed new Children's Memorial Hospital site, we feel it is feasible to locate a heliport on the roof of the proposed Children's Hospital. It appears there can be clear obstacle-free approach paths to the heliport from the east, northeast southeast and southwest. An accurate survey will be needed, as we discussed at the site, before precise approach / departure paths can be established.

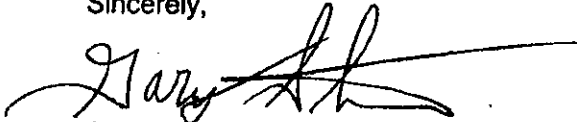
Wind currents due to surrounding buildings and the proposed heliport elevation are a concern. We feel this concern can be safely addressed through designing the heliport for these conditions. Some, but not all safety considerations should include a larger landing surface (50' x 50' is recommended), a small weather station for wind direction and velocity and positioning the landing pad in as far as practical from the building walls.

As we discussed, local zoning approval is the first step needed to move the heliport approval process through the FAA, Chicago Department of Aviation and our office. We as a regulatory agency responsible for aviation safety do feel that a safe and efficient heliport can be operated on the roof of your proposed new site. Of course detailed plan review, an FAA airspace study and approval for licensing through the Chicago Department of Aviation are all required prior to opening the heliport for use. We will also conduct an on-site landing and final inspection of the heliport prior to issuing our Certificate of Approval. The Illinois Department of Public Health will also want assurance that the heliport will meet all State and FAA safety standards.

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Robert McKenna
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Let me know if we can help in addressing any heliport issues with other government agencies or the public. Keep us informed of your progress on the heliport project. Call me at 217-785-5746 or e-mail me at Gary.D.Stevens@illinois.gov with any questions or if we can provide assistance in the future.

Sincerely,

A handwritten signature in black ink, appearing to read "Gary Stevens", with a long horizontal flourish extending to the right.

Gary D. Stevens
Flight Safety Coordinator

CMHLT600.DOC